

R E M A R K S

The office action of December 4, 2004 has been reviewed and its contents carefully noted. Reconsideration of this case, as amended, is requested. Claims 1 through 29 remain in this case, with no claims being cancelled or added by this response.

Objections to the Information Disclosure Statement and Specification

1. As to the Information Disclosure Statement, the Examiner states:

The information disclosure statement filed 30 October 2000 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Copies of the following references are needed: US 5722076, US 5736965, US 5835128, US 5903373, US 5903548, US 5937348

The aforesaid patents are enclosed herewith.

2. As to the Specification, the Examiner states:

The disclosure is objected to because of the following informalities: On page 2, line 4, "there be" should read --there would be--.

Appropriate correction is required.

The requested correction has been made above.

Rejection for Non-Statutory Double Patenting

The Examiner notes that a timely filed terminal disclaimer will overcome this ground for rejection, and outlines the claims rejected and the grounds therefor as follows:

Claims 1, 12, 21, 23, and 25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 15, 26, 44, and 59 of U.S. Patent No. 6,108,331.

Both claims 1, 12, 21, 23, and 25 of the instant application and claims 1, 15, 26, 44, and 59 of US 6,108,331 are directed to an in-house signal distribution system including a

main input node taking an external signal and converting the external signal to addressed data packets and distributed to various access nodes with the house. The access nodes include a packet handler that picks packets addressed to the access node from the packet stream and converts the picked packets back to the original signal, and further sent to a respective distributing connector of the access node to the end-user device.

Claims 1, 15, 26, 44, and 59 of US 6,108,331 fails to specify a main input node having the capability to communicate to the access node, and the access node communicating to the end-user device through a wireless medium such as radio frequencies, with each node would having an attached wireless transceiver for transmitting and receiving signals, as specified in claims 1, 12, 21, 23, and 25 of the application.

Buckley (US 6,366,840) teaches the use of wireless communication interfaces connected to each other through a wireless medium. Buckley discloses in figure 1 a system for enabling wireless communication among a stand-alone computer, built-in vehicular display, and a trip computer.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the patent's claimed invention by utilizing wireless communication among the main input node, access nodes, and end-user devices, as suggested by Buckley. The motivation is to obtain a more versatile system where physical wiring is not required among the nodes and where the user can move the device around without the trouble of wiring. Installation of the system is also made easier.

Applicant traverses the rejection posited as, for the reasons set forth below with reference to the rejections under 35 U.S.C. §103, applicant rejects the use of Buckley as a valid reference in this matter. Reconsideration and withdrawal of the rejection is, therefore, respectfully requested.

Rejection(s) under 35 U.S.C. §103

1. The Rejections Posited are Not Well Founded

All of the existing claims, including all of the independent claims are rejected under 35 U.S.C. 103(a) as being unpatentable over *Humpleman* in view of *Abraham* and further in view of *Buckley '840* and/or *Buckley '089*. Certain other references are brought in by the Examiner to deal with particular features of the claims, but the previously stated references are crucial to all of the Examiner's arguments.

Applicant respectfully traverses all of the grounds for rejection posited under 103, but finds it unnecessary to discuss all grounds posited by the Examiner as the discussion that follows

effectively refutes the foundation for all of the arguments set forth by the Examiner—i.e., the applicability and combination of the Humpleman, Abraham and Buckley references.

As to these references, the Examiner holds that (a) Humpleman anticipates all aspects of the invention other than (b) being mounted in a wall of the structure (which he alleges to be shown by Abraham) and (c) the access node including wireless communication (which he alleges to be taught by Buckley). (Office Action at pp. 4–7). Applicant respectfully traverses these rejections. The Examiner's specific arguments are discussed and refuted in subparagraphs (a), (b) and (c), below.

(a) More specifically as to Humpleman, the Examiner states:

Regarding **claims 1, 12, 21, and 23**, Humpleman discloses an in-house signal distribution system (*see figure 2*) including:

[i] a main input node ("**network interface unit**", *figure 4, element 32*) mounted in a structure ("**network interface units 32 are located in a utility area of the house**", *column 4, lines 43-44*) and taking at least one external signal ("**permitting a connection between a different external network and the home network**"; *column 3, lines 23-24*) and converting the at least one external signal to addressed data packets conveyed in a packet stream to at least one access node ("**set-top electronics**", *figure 4, element 40*), each access node having a unique node address ("**the internal network is an Ethernet network**"; *column 7, line 29; also column 11, lines 21-24 states that the access node examines the addresses of the data packets it receives and performs a routing function for data that is not meant for this node.*);

[ii] each access node being an access port including a main module (*figure 4, element 40*)

[iii] a main module connector connected to the packet stream (*figure 4, element 64*);

[iv] at least one distributing connector connected to the main module ("**the packet of data is transmitted from the network interface unit 32 to the set-top electronics 40**" *column 8, lines 6-8*) and arranged for connection to at least one device that can receive respective ones of the at least one signal distributed by the in-house signal distribution network (*figure 1, element 40 and 12*);

[v] a packet handler that picks packets addressed to the access node from

the packet stream (***"The set-top electronics examines the addresses of the data packets it receives and performs a routing function for data that is not meant for this node", column 11, lines 21-24***); and

[vi] the packet handler converting the picked packets back to their respective ones of the at least one signal and sending the respective ones of the at least one signal to a respective distributing connector of the access node (***column 8, lines 22-28 states that the data stream received by the set-top electronics is fed to the MPEG decoder, which decodes the data and provides it to the video decoder/encoder. The video decoder/encoder converts the signal to a format suitable for use by a display device, such as a television. The MPEG decoder and video decoder/encoder is shown in figure 4, elements 70 and 72, respectively***); and

[vii] a packet stream distributor (***figure 4, element 34***) carrying the packet stream from the main input node output port to each access node main module connector (***column 5, lines 3-8 states the internal network 34 as being interposed between the network interface units NIU and set-top electronics STE. It is further explained that the electronics of the NIU do not have to be duplicated for each STE***).

Applicant respectfully disagrees with this characterization of the teachings of Humpleman and with the Examiner's attempted analogy between certain aspects of Humpleman and aspects of the instant invention.

First, the Examiner is incorrect in arguing [i] that the NIU's 32 of Humpleman are analogous to the main input node ("node zero 100") of the instant invention. In the instant invention, all incoming signals, including analog, digital, broadcast television, cable television, etc., enter through the input node 100 and are converted into a single packet stream. (See, Application at p. 11, lines 1-27; and cf., Application FIGS. 6 and 7 with FIGS. 1, 2 and 3 of Humpleman). In contrast to this, only certain signals in the Humpleman device enter through various NIUs. Others, such as POTS and POTV may be routed directly to respective devices. (See, e.g., Humpleman at FIG. 1). And, even where Humpleman shows all signals entering via NIUs, not all signals entering are routed to the STEs 40 that the Examiner claims are analogous to the access nodes of the instant invention.

Second, the Examiner is incorrect in arguing [ii, iii, iv, v, vi and vii] that Humpleman teaches the access node/port 1 and packet stream distributor of the instant invention. What the Examiner claims to be Humpleman's "access nodes"—set top electronics/STE 40—do not even

receive/distribute all of the signals conveyed via his switched hub 38 from his NIUs. (See, Humpleman at FIGS. 2 and 3; cf. Application at FIGS. 6 and 7). They receive/distribute only signals (as their name implies) related to television, VCR and camcorders (i.e.-certain video signals). In contrast to this, and as previously noted, the access nodes 1 of the instant invention receive/distribute signals to all types of devices, including non-television/video devices. Thus, if Humpleman's STEs were truly analogous in function to the access nodes of the instant invention, an STE would be intermediate the internal network 34 in FIG. 1 of Humpleman and each of the various applications shown, not just the television/video applications. Likewise, in FIGS. 2 and 3, an STE would appear between the switched hub 38 of Humpleman and each of the applications, not just the television/video applications.

However, even this would not be sufficient. It would also be necessary to show/teach each STE as being capable of servicing multiple different types of devices (including nonvideo devices)—not just certain limited types of devices associated with televisions. For example, in the instant invention, each access node 1 has connectors for, and can receive/distribute signals to, each of several different types of devices via appropriate physical medium connectors 40. (See, Application at FIGS. 4, 5, and discussion at p. 4). Thus, Humpleman would need to show and teach the use of his STEs for every application—from e.g., telephone, radio and television, to printers, fax machines and computers. In FIGS. 1, 2 and 3, for example, Humpleman would not only show an STE intermediate each application, he would show each STE supporting several applications. STE-1 (40) in FIG. 1 would not just be connected to video applications/devices, it would be connected and/or connectable to all of the other applications/devices (20, 24, 12, etc.) shown in FIG. 1. Humpleman does not do or teach this, nor is there any teaching in Humpleman that would suggest the desirability of such a configuration. In fact, the entire thrust and intent of Humpleman's STE's is to deal with television/video signals. He shows no knowledge, understanding, or intention of dealing with anything else. For example, he states “[s]et top boxes are multi-media computers that augment the use of televisions.” (Emphasis added, col. 1, lines 40-41). As noted above, everything in his patent emphasizes the use of his STEs in conjunction with signals used with televisions. (See, also, Summary at col. 2, lines 9-13). There is nothing to show or suggest any advantage in using them as access nodes are used in the instant invention.

Overall, it is clear that the Examiner is incorrectly analogizing and comparing very different devices. Unlike Humpleman, the main input node 100 of the instant invention conveys a packet stream to **each** access node 1 that contains **all** of the external signals, including data packets for signals for many different types of devices (including non-video related devices). Each access node of the instant device receives all of the external signals as data packets, including signals for a multitude of different types of devices (including non-television related devices), and sorts these to distributing connectors 40 present at each access node1 for such different types of devices.

Thus, the instant invention involves a system that is truly transparent--encoding, distributing, and decoding the encoded data back into raw incoming signals at the access nodes. Multiple incoming signals are plugged into the hub at node zero, which encodes/multiplexes them into a single signal/data/packet stream. The single data/packet stream is then broadcast over the network to all the nodes, which take what they need from the single stream for the devices that are plugged in them. All the user has to do is plug in devices at setup (or any time afterward) and use them like they would if they were plugged right into the raw incoming signal.

In contrast to this, the Humpleman system essentially decodes only limited incoming signals at a respective NIU. Each NIU encodes its decoded signal, then sends the encoded signal to the network, resulting in a plurality of decoded, then re-encoded signals existing on the network, one signal for each NIU, one signal for each incoming source. There are even instances in which a NIU will generate more than one signal, as for picture-in-picture capability (col. 11, lines 49-59). Each signal appears to be accessed on a one-to-one basis (NIU to STE that selects the NIU), limiting what can be done at the STEs and with each NIU. Moreover, as repeatedly noted, the only signals that are being dealt with by Humpleman at his STEs are signals used by televisions and related applications. Thus the only devices he shows connected to his STEs are televisions, VCRs and camcorders.

In addition, the STEs of Humpleman are multimedia computers with which the home network is controlled and through which the signals coming into the NIUs are passed (col. 7, lines 13; col. 9, line 62-col. 10, line 11). Humpleman insists that the network is transparent even though each STE has a remote control and user interface with which users select what they want

to do. The instant system uses a truly transparent network in which devices are simply plugged into their respective ports and receive data/signals of the appropriate respective types as though there were a plurality of networks for each type of device.

Thus, in conclusion, it is clear that the Examiner has incorrectly applied the Humpleman reference for the purposes of this case. Humpleman suggests a limited purpose NIU functioning directly with end devices serviced by the network as well as with STEs. This is contrary to the teachings of the instant invention with regard to its Main node. The main mode of the instant invention functions with all end devices in the network via access nodes. Humpleman also suggests a limited purpose STE that does not interface with all of the end devices serviced by the network. This is contrary to the teachings of the instant invention with regard to its access nodes. Overall, the application of Humpleman completely misses the point of the instant invention, compares a transparent with a non-transparent system, involves elements (particularly STEs) that are not analogous or comparable to the elements of the instant invention, and is otherwise is inapt and should be withdrawn.

(b) As to Abrahams, the Examiner states:

Humpleman, however, fails to expressly disclose the set-top electronics as being mounted in a wall of the structure.

Abraham teaches the use of mounting a distribution box on a wall for proximity to television sets (*see column 19, lines 41-45*) and to hide wiring (*see column 19, lines 55-57*).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Humpleman's apparatus to incorporate a setup where the set-top electronics is mounted to a wall, the motivation being that the set-top electronics will be more accessible for connection to the end-user devices and to be able to mask wiring behind walls.

(Office Action at p. 6). However, here once again, the Examiner is analogizing the teaching of a device that is intended for use with video applications—in particular cable video applications to an invention that has a far broader application. Moreover, there is nothing in Abrahams that suggests the mounting of the “access node” of the instant invention in a wall. Abrahams is cited for the mounting of a distribution box 12 “on a wall near a fuse box or junction box” (emphasis added). It relates to an “incoming” distribution box, not an output node/device. Abrahams also

does not deal with the mounting of multiple access nodes, or even multiple STEs. Finally, it says nothing about mounting **in** a wall as opposed to **on** a wall.

As is clear from the foregoing, the applicant disputes the application of Abraham as a reference for the purposes cited by the Examiner. However, applicant also disputes its use in combination with Humpleman. In this regard, Applicant' directs the Examiner's attention to the opinion of the CAFC in *In re Lee*, Fed. Cir., No. 00-1158, 18 January 2002 (opinion enclosed as appendix for the Examiner's convenience). The particular point to which Applicant calls the Examiner's attention is that "common knowledge" is not an adequate basis for establishing a *prima facie* case of obviousness. The facts of *In re Lee* involved the combination of two references, neither of which disclosed or specifically suggested at least two salient features of the claimed invention. The Examiner had made conclusory statements, such as "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Humpleman's apparatus to incorporate a setup where the set-top electronics is mounted to a wall, the motivation being that the set-top electronics will be more accessible for connection to the end-user devices and to be able to mask wiring behind walls." While the CAFC acknowledged that the Examiner and the Board are deemed to have experience in the field of the invention, they stated that the Examiner's conclusory statements did not adequately address the issue of motivation to combine and could be construed as hindsight reconstruction. In support of their decision, the CAFC indicated that whatever knowledge is to be applied must be articulated and placed on the record, and that evidence relied upon must be objective evidence of record; some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant must be present in the prior art (i.e.-Abrahams) and made of record.

(c) As to Buckley, the Examiner states that:

Humpleman also fails to disclose the access node to include a transceiver in wireless communication with at least one of the main input node and the at least one device.

Buckley teaches the use of wireless communication interfaces connected to each other through a wireless medium. Buckley discloses in figure 1 a system for enabling wireless communication among a stand-alone computer, built-in vehicular display, and a trip computer. He further teaches the use of Bluetooth as a method of wireless communication as stated on column 2, lines 13-16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Humpleman's apparatus to incorporate a setup where the set-top electronics is connected to the network interface unit and end-user device through a scheme of wireless communication, such as Bluetooth, the motivation being a more versatile system where physical wiring is not required among the nodes and where the user can move the device around the home without the hassle of wiring. Installation of the system is also made easier.

(Office Action at p. 7). However, here as with Abrahams, above, Applicant respectfully suggests that the Examiner is indulging in hindsight reconstruction and provides no specific cite to Buckley to support his statement of “motivations” for the combination.

To establish a *prima facie* case for obviousness, the Examiner must indicate where and how the references disclose and/or suggest all features of the rejected claims. Applicants do not see any indication by the Examiner as to where or how Buckley discloses or suggests that “[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Humpleman's apparatus to incorporate a setup where the set-top electronics is connected to the network interface unit and end-user device through a scheme of wireless communication, such as Bluetooth, the motivation being a more versatile system where physical wiring is not required among the nodes and where the user can move the device around the home without the hassle of wiring.” Nor, does the Examiner show where Buckley suggests that “[i]nallation of the system is also made easier.”

2. Amendments Made

On of the previously outlined distinctions between Humpleman and the instant invention is made even more clear by a de minimis amendment of the independent claims to emphasize that the end devices served by the access nodes of the instant invention can include nonvideo devices. This is not the case with Humpleman.

3. Summary

Applicant respectfully disagrees with the grounds for rejection posited and believes the independent claims, with or without the amendments made above, are patentable over the references cited, individually and in combination, for the reasons given above. Moreover, the

dependent claims, being dependent upon and further limiting the independent claims, should also be allowable for that reason, as well as for the additional recitations they contain.

Reconsideration and withdrawal of the rejections are respectfully requested.

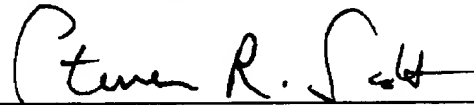
Conclusion

Applicant believes the claims, as amended, are patentable over the prior art, and that this case is now in condition for allowance of all claims therein. Such action is thus respectfully requested. If the Examiner disagrees, or believes for any other reason that direct contact with Applicants' attorney would advance the prosecution of the case to finality, he is invited to telephone the undersigned at the number given below.

"Recognizing that Internet communications are not secured, I hereby authorize the PTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file."

Respectfully Submitted:

--William H. Thompson--

By: 

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Appendix: Opinion from *In re Lee*, Fed. Cir., No. 00-1158, 18 January 2002

IN RE SANG SU LEE

00-1158

UNITED STATES COURT OF APPEALS FOR THE
FEDERAL CIRCUIT

2002 U.S. App. LEXIS 855

January 18, 2002, Decided

PRIOR HISTORY:

[*1] Appealed from: Patent & Trademark Office Board of Patent Appeals and Interferences. (Serial No. 07/631,240).

DISPOSITION:

Vacated and remanded.

COUNSEL:

Richard H. Stern, of Washington, DC, argued for Sang Su Lee. With him on the brief was Robert E. Bushnell.

Sidney O. Johnson, Jr., Associate Solicitor, of Arlington, Virginia, argued for the Director of the U.S. Patent and Trademark Office. With him on the brief were John M. Whealan, Solicitor, and Raymond T. Chen, Associate Solicitor. Of counsel were Maximilian R. Peterson and Mark Nagumo, Associate Solicitors.

JUDGES:

Before NEWMAN, CLEVINGER, and DYK, Circuit Judges.

OPINIONBY:

NEWMAN

OPINION:

NEWMAN, Circuit Judge.

Sang-Su Lee appeals the decision of the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office, rejecting all of the claims of Lee's patent application Serial No. 07/631,210 entitled "Self-Diagnosis and Sequential-Display Method of Every Function." n1 We vacate the Board's decision for failure to meet the adjudicative standards for review under the Administrative Procedure Act, and remand for further proceedings.

n1 Ex parte Lee, No. 1994-1989 (Bd. Pat. App. & Int. Aug. 30, 1994; on reconsid'n Sept. 29, 1999).

[*2]

The Prosecution Record

Mr. Lee's patent application is directed to a method of automatically displaying the functions of a video display device and demonstrating how to select and adjust the functions in order to facilitate response by the user. The display and demonstration are achieved using computer-managed electronics, including pulse-width modulation and auto-fine-tuning pulses, in accordance with procedures described in the specification. Claim 10 is representative:

10. A method for automatically displaying functions of a video display device, comprising:

determining if a demonstration mode is selected;

if said demonstration mode is selected, automatically entering a picture adjustment mode having a picture menu screen displaying a list of a plurality of picture functions; and

automatically demonstrating selection and adjustment of individual ones of said plurality of picture functions.

The examiner rejected the claims on the ground of obviousness, citing the combination of two references: United States Patent No. 4,626,892 to Nortrup, and the Thunderchopper Helicopter Operations Handbook for a video game. The Nortrup reference describes a television [*3] set having a menu display by which the user can adjust various picture and audio functions; however, the Nortrup display does not include a demonstration of how to adjust the functions. The Thunderchopper Handbook describes the Thunderchopper game's video display as having a "demonstration mode" showing how to play the game; however, the Thunderchopper Handbook makes no mention of the adjustment of picture or audio functions. The examiner held that it would have been obvious to a person of ordinary skill to combine the teachings of these references to produce the Lee system.

Lee appealed to the Board, arguing that the Thunderchopper Handbook simply explained how to play the Thunderchopper game, and that the prior art provided no teaching or motivation or suggestion to combine this reference with Nortrup, or that such combination would produce the Lee invention. The Board held that it was not necessary to present a source of a teaching, suggestion, or motivation to combine these references or their teachings. The Board stated:

The conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or [*4] suggestion in a particular reference.

Board op. at 7. The Board did not explain the "common knowledge and common sense" on which it relied for its conclusion that "the combined teachings of Nortrup and Thunderchopper would have suggested the claimed invention to those of ordinary skill in the art."

Lee filed a request for reconsideration, to which the Board responded after five years. The Board reaffirmed its decision, stating that the Thunderchopper Handbook was "analogous art" because it was "from the same field of endeavor" as the Lee invention, and that the field of video

games was "reasonably pertinent" to the problem of adjusting display functions because the Thunderchopper Handbook showed video demonstrations of the "features" of the game. On the matter of motivation to combine the Nortrup and Thunderchopper references, the Board stated that "we maintain the position that we stated in our prior decision" and that the Examiner's Answer provided "a well reasoned discussion of why there is sufficient motivation to combine the references." The Board did not state the examiner's reasoning, and review of the Examiner's Answer reveals that the examiner merely stated that both [*5] the Nortrup function menu and the Thunderchopper demonstration mode are program features and that the Thunderchopper mode "is user-friendly" and it functions as a tutorial, and that it would have been obvious to combine them.

Lee had pressed the examiner during prosecution for some teaching, suggestion, or motivation in the prior art to select and combine the references that were relied on to show obviousness. The Examiner's Answer before the Board, plus a Supplemental Answer, stated that the combination of Thunderchopper with Nortrup "would have been obvious to one of ordinary skill in the art since the demonstration mode is just a programmable feature which can be used in many different devices for providing automatic introduction by adding the proper programming software," and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial." The Board adopted the examiner's answer, stating "the examiner has provided a well reasoned discussion of these references and how the combination of these references meets the claim limitations." However, perhaps recognizing that the examiner had provided insufficient justification to [*6] support combining the Nortrup and Thunderchopper references, the Board held, as stated supra, that a "specific hint or suggestion" of motivation to combine was not required.

This appeal followed.

Judicial Review

Tribunals of the PTO are governed by the Administrative Procedure Act, and their rulings receive the same judicial deference as do tribunals of other administrative agencies. *Dickinson v. Zurko*, 527 U.S. 150, 50 USPQ2d 1930, 144 L. Ed. 2d 143, 119 S. Ct. 1816 (1999). Thus on appeal we review a PTO Board's findings and conclusions in accordance with the following criteria:

5 U.S.C. § 706(2) The reviewing court shall--

(2) hold unlawful and set aside agency actions, findings, and conclusions found to be--

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute;

For judicial review to be meaningfully achieved within these strictures, the agency tribunal must present a full and reasoned [*7] explanation of its decision. The agency tribunal must set forth its findings and the grounds thereof, as supported by the agency record, and explain its application of the law to the found facts. The Court has often explained:

The Administrative Procedure Act, which governs the proceedings of administrative agencies and related judicial review, establishes a scheme of "reasoned decisionmaking." Not only must an agency's decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational.

Allentown Mack Sales and Service, Inc. v. National Labor Relations Bd., 522 U.S. 359, 374, 139 L. Ed. 2d 797, 118 S. Ct. 818 (1998) (citation omitted). This standard requires that the agency not only have reached a sound decision, but have articulated the reasons for that decision. The reviewing court is thus enabled to perform meaningful review within the strictures of the APA, for the court will have a basis on which to determine "whether the decision was based on the relevant factors and whether there has been a clear error of judgment." *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416, 28 L. Ed. 2d 136, 91 S. Ct. 814 (1971). [*8] Judicial review of a Board decision denying an application for patent is thus founded on the obligation of the agency to make the necessary findings and to provide an administrative record showing the evidence on which the findings are based, accompanied by the agency's reasoning in reaching its conclusions. See *In re Zurko*, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) (review is on the administrative record); *In re Gartside*, 203 F.3d 1305, 1314, 53 USPQ2d 1769, 1774 (Fed. Cir. 2000) (Board decision "must be justified within the four corners of the record").

As applied to the determination of patentability *vel non* when the issue is obviousness, "it is fundamental that rejections under 35 U.S.C. § 103 must be based on evidence comprehended by the language of that section." *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983). The essential factual evidence on the issue of obviousness is set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467, 15 L. Ed. 2d 545, 86 S. Ct. 684 (1966) and extensive ensuing precedent. The patent examination process [*9] centers on prior art and the analysis thereof. When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See, e.g., *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the Graham factors).

"The factual inquiry whether to combine references must be thorough and searching." *Id.* It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. See, e.g., *Brown & Williamson Tobacco Corp. v. Philip*

Morris Inc., 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000) ("a showing of a suggestion, teaching, or motivation to combine the prior art references is an 'essential component of an obviousness holding'" (quoting *C.R. Bard, Inc., v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998))); [*10] *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) ("teachings of references can be combined only if there is some suggestion or incentive to do so.") (emphasis in original) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)).

The need for specificity pervades this authority. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, [*11] would have selected these components for combination in the manner claimed"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references").

With respect to Lee's application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner's conclusory statements that "the demonstration mode

[*12] is just a programmable feature which can be used in many different devices for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." *W.L. Gore v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). Thus the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion.

Deferential judicial review under the Administrative Procedure Act does not relieve the agency of its obligation to develop an evidentiary basis for its findings. To the contrary, the Administrative Procedure Act reinforces [*13] this obligation. See, e.g., *Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Ins. Co.*, 463 U.S. 29, 43, 77 L. Ed. 2d 443, 103 S. Ct. 2856 (1983) ("the agency must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'") (quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168, 9 L. Ed. 2d 207, 83 S. Ct. 239 (1962)); *Securities & Exchange Comm'n v. Chenery Corp.*, 318 U.S. 80, 94, 87 L. Ed. 626, 63 S. Ct. 454 (1943) ("The orderly function of the process of review requires that the grounds upon which the administrative agency acted are clearly disclosed and adequately sustained.").

In its decision on Lee's patent application, the Board rejected the need for "any specific hint or suggestion in a particular reference" to support the combination of the Nortrup and Thunderchopper references. Omission of a relevant factor required by precedent is both legal error and arbitrary agency action. See *Motor Vehicle Manufacturers*, 463 U.S. at 43 ("an agency rule would be arbitrary and [*14] capricious if the agency ... entirely failed to consider an important aspect of the problem"); *Mullins v. Department of Energy*, 50 F.3d 990, 992 (Fed. Cir. 1995) ("It is well established that agencies have a duty to provide reviewing courts with a

sufficient explanation for their decisions so that those decisions may be judged against the relevant statutory standards, and that failure to provide such an explanation is grounds for striking down the action."). As discussed in *National Labor Relations Bd. v. Ashkenazy Property Mgt. Corp.*, 817 F.2d 74, 75 (9th Cir. 1987), an agency is "not free to refuse to follow circuit precedent."

The foundation of the principle of judicial deference to the rulings of agency tribunals is that the tribunal has specialized knowledge and expertise, such that when reasoned findings are made, a reviewing court may confidently defer to the agency's application of its knowledge in its area of expertise. Reasoned findings are critical to the performance of agency functions and judicial reliance on agency competence. See *Baltimore and Ohio R. R. Co. v. Aberdeen & Rockfish R. R. Co.*, 393 U.S. 87, 91-92, 21 L. Ed. 2d 219, 89 S. Ct. 280 (1968) [*15] (absent reasoned findings based on substantial evidence effective review would become lost "in the haze of so-called expertise"). The "common knowledge and common sense" on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. Conclusory statements such as those here provided do not fulfill the agency's obligation. This court explained in *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697, that "deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is 'basic knowledge' or 'common sense.'" The Board's findings must extend to all material facts and must be documented on the record, lest the "haze of so-called expertise" acquire insulation from accountability. "Common knowledge and common sense," even if assumed to derive from the agency's expertise, do not substitute for authority when the law requires authority. See *Allentown Mack*, 522 U.S. at 376 ("Because reasoned decisionmaking demands it, and because the systemic consequences of any other approach are unacceptable, the Board must be required to apply in fact the [*16] clearly understood legal standards that it enunciates in principle")

The case on which the Board relies for its departure from precedent, *In re Bozek*, 57 C.C.P.A. 713, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969), indeed mentions "common knowledge and common sense," the CCPA stating that the phrase was used by the Solicitor to support the Board's conclusion of obviousness based on evidence in the prior art. Bozek did not hold that

common knowledge and common sense are a substitute for evidence, but only that they may be applied to analysis of the evidence. Bozek did not hold that objective analysis, proper authority, and reasoned findings can be omitted from Board decisions. Nor does Bozek, after thirty-two years of isolation, outweigh the dozens of rulings of the Federal Circuit and the Court of Customs and Patent Appeals that determination of patentability must be based on evidence. This court has remarked, in *Smiths Industries Medical Systems, Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1356, 51 USPQ2d 1415, 1421 (Fed. Cir. 1999), that Bozek's reference to common knowledge "does not in and of itself make it so" absent evidence [*17] of such knowledge.

The determination of patentability on the ground of unobviousness is ultimately one of judgment. In furtherance of the judgmental process, the patent examination procedure serves both to find, and to place on the official record, that which has been considered with respect to patentability. The patent examiner and the Board are deemed to have experience in the field of the invention; however, this experience, insofar as applied to the determination of patentability, must be applied from the viewpoint of "the person having ordinary skill in the art to which said subject matter pertains," the words of section 103. In finding the relevant facts, in assessing the significance of the prior art, and in making the ultimate determination of the issue of obviousness, the examiner and the Board are presumed to act from this viewpoint. Thus when they rely on what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record. The failure to do so is not consistent with either effective administrative procedure or effective judicial review. The board cannot rely on conclusory statements when dealing with particular combinations [*18] of prior art and specific claims, but must set forth the rationale on which it relies.

Alternative Grounds

At oral argument the PTO Solicitor proposed alternative grounds on which this court might affirm the Board's decision. However, as stated in *Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 168, 9 L. Ed. 2d 207, 83 S. Ct. 239 (1962), "courts may not accept appellate counsel's post hoc rationalization for agency action." Consideration by the appellate tribunal of

new agency justifications deprives the aggrieved party of a fair opportunity to support its position; thus review of an administrative decision must be made on the grounds relied on by the agency. "If those grounds are inadequate or improper, the court is powerless to affirm the administrative action by substituting what it considers to be a more adequate or proper basis." *Securities & Exchange Comm'n v. Chenery Corp.*, 332 U.S. 194, 196, 91 L. Ed. 1995, 67 S. Ct. 1575 (1947). As reiterated in *Federal Election Comm'n v. Akins*, 524 U.S. 11, 25 (1998), "If a reviewing court agrees that the agency misinterpreted the law, it will set aside the [*19] agency's action and remand the case -- even though the agency (like a new jury after a mistrial) might later, in the exercise of its lawful discretion, reach the same result for a different reason." Thus we decline to consider alternative grounds that might support the Board's decision.

Further Proceedings

Sound administrative procedure requires that the agency apply the law in accordance with statute and precedent. The agency tribunal must make findings of relevant facts, and present its reasoning in sufficient detail that the court may conduct meaningful review of the agency action. In *Radio-Television News Directors Ass'n v. FCC*, 337 U.S. App. D.C. 292, 184 F.3d 872 (D.C. Cir. 1999) the court discussed the "fine line between agency reasoning that is 'so crippled as to be unlawful' and action that is potentially lawful but insufficiently or inappropriately explained," quoting from *Checkosky v. Securities & Exch. Comm'n*, 306 U.S. App. D.C. 144, 23 F.3d 452, 464 (D.C. Cir. 1994); the court explained that "in the former circumstance, the court's practice is to vacate the agency's order, while in the latter the court frequently remands for further explanation [*20] (including discussion of the relevant factors and precedents) while withholding judgment on the lawfulness of the agency's proposed action." 184 F.3d at 888. In this case the Board's analysis of the Lee invention does not comport with either the legal requirements for determination of obviousness or with the requirements of the Administrative Procedure Act that the agency tribunal set forth the findings and explanations needed for "reasoned decisionmaking." Remand for these purposes is required. See *Overton Park*, 401 U.S. at 420-221 (remanding for further proceedings appropriate to the administrative process).

VACATED AND REMANDED